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DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR 1960

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS HOUSE OF REPRESENTATIVES

EIGHTY-SIXTH CONGRESS

FIRST SESSION

SUBCOMMITTEE ON DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES

MICHAEL J. KIRWAN, Ohio, *Chairman*

W. F. NORRELL, Arkansas
DON MAGNUSON, Washington
WINFIELD K. DENTON, Indiana
BEN F. JENSEN, Iowa
IVOR D. FENTON, Pennsylvania
KEITH THOMSON, Wyoming

EUGENE B. WILHELM, *Staff Assistant to the Subcommittee*

DEPARTMENT OF THE INTERIOR
(except Bonneville Power Administration, Bureau of Reclamation, Southeastern Power Administration, and Southwestern Power Administration)
COMMISSION OF FINE ARTS
FEDERAL COAL MINE SAFETY BOARD OF REVIEW
FOREST SERVICE
HISTORICAL AND MEMORIAL COMMISSIONS
INDIAN CLAIMS COMMISSION
NATIONAL CAPITAL PLANNING COMMISSION
SMITHSONIAN INSTITUTION
VIRGIN ISLANDS CORPORATION

Printed for the use of the Committee on Appropriations

Budget Unit Copy
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DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR 1963

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SECOND SESSION

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RELATED AGENCIES
(including Forest Service)

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House 1963

.....1131

are working for Van Camp; they are working also for the Government.

They would have sufficient money to buy sets with. We would try and help them at the time we let our order by taking orders for those who want them. This way we could get them a good wholesale price so we could have as widespread coverage as possible.

BROADCASTING HOURS PER DAY

Mr. Magnuson. What do you plan in terms of hours of broadcasting per day?

Governor Lee. On the educational TV it would correspond to the schoolday.

Mr. Magnuson. You would not have children watching TV all day long, would you?

Governor Lee. No; they would watch about as long as the teacher teaches in the classroom.

Mr. Magnuson. You would jump from class to class, subject to subject?

Governor Lee. Yes; from class to class, subject to subject.

We would have study rooms. This would depend on the subject matter. The stations would be in use during the schoolday. They would be alternating between classes.

Mr. Magnuson. Dr. Fenton?

Mr. Fenton. No questions.

Mr. Magnuson. Thank you, gentlemen.

SMITHSONIAN INSTITUTION

Thursday, January 25, 1962.

WITNESSES

DR. LEONARD CARMICHAEL, SECRETARY
DR. A. REMINGTON KELLOGG, ASSISTANT SECRETARY
JAMES BRADLEY, ASSISTANT SECRETARY
MARIA HOEMANN, BUDGET OFFICER

Mr. Kirwan. We have with us the representatives of the Smithsonian Institution. We are glad to take up again the budget of Smithsonian. Dr. Carmichael would you like to make a statement first?

General Statement

Dr. Carmichael. If I may, Mr. Chairman.

Thank you very much for allowing me to appear before you.

First, I should like briefly to review the basic functions of the Smithsonian Institution. The Smithsonian Institution was founded in 1846 for the increase and diffusion of knowledge among men. To fulfill this mission, the Institution has for more than a century conducted well-defined scholarly and research activities not duplicated elsewhere.

I think in a special way I can emphasize that our research is not duplicated. For example, investigators in the biological sciences throughout the country, and indeed throughout the world, come to our buildings to refer to special items among the classified and documented specimens in the collections of the Smithsonian. This reference is necessary to solve the specific problems in their research and often this work can be done in no other place except the Smithsonian.

Through its Astrophysical Observatory, the Smithsonian conducts diversified research in astrophysics, including the study of solar radiation, solar astrophysics, the upper atmosphere, meteors, meteorites, specific scientific problems of artificial satellites, and very specialized studies in space science.

Again, I can say that these topics of study are not a duplication of those conducted elsewhere.

To use the old words of our basic law, knowledge is effectively diffused at the Smithsonian through research publications, museum and art gallery displays, lectures, the international exchange of scientific documents, and by extensive correspondence which last year involved the answering of over 321,965 requests for scientific and technical information. This was an increase of 24,586 over the previous year.

VISITORS

Public interest in the museums of the Smithsonian continues to grow, as is evidenced by the great increase in the number of visitors to our buildings. In fiscal year 1961 the number of visitors to the Smithsonian buildings on the Mall (exclusive of the National Gallery of Art) reached a total of 7,103,474. This is an increase of almost 609,000 over the previous year. We feel that the improved museum exhibits, made possible in recent years by this committee, are largely responsible, because of their excellence, for this increase in the number of visitors. You may be interested to know that in 1953, the year in which the program for the renovation of exhibits began, the number of visitors was 3,429,429. It has gone from that number to the over 7 million that I mentioned.

The request for the continuation of this program is at the same level as 1962; that is, $455,000. This work is of utmost importance.

CONSTRUCTION PROGRAMS

I should like now to report on the Institution's construction programs before I discuss the requests for salaries and expenses. These construction matters should be discussed at this point because some items in the "Salaries and expenses" budget are related to work required by the construction activities of the Institution.

The new Museum of History and Technology, being built on Constitution Avenue between 12th and 14th Streets, is scheduled to be substantially completed in March 1963. Partial occupancy of some exhibition and museum areas is planned for October 1962.

Excellent progress is being made on the construction of the east wing of the Natural History Building for which funds were appropriated in 1961. Completion date is now expected to be as early as January 1963, and thus this wing will be occupied for part of the

fiscal year 1963. Funds were appropriated in 1962 to construct the west wing to complete this project. The entire project should be completed by July 1964.

The estimate of funds for "Remodeling the Civil Service Commission Building" to make it suitable to house the National Collection of Fine Arts and the National Portrait Gallery is $5,400,000. The transfer of this historic building to the Smithsonian Institution has been authorized by the Congress. The availability of this building for remodeling is dependent upon the completion of the new building now under construction for the Civil Service Commission and is based upon a completion date for the new Civil Service Commission Building of March 1963.

The estimated remodeling cost is based on a study authorized by the Public Buildings Service of the General Services Administration. The detailed plans and specifications for the remodeling are being developed this year with planning funds appropriated for this purpose.

Last year, the Congress acted favorably on a request for specific legislative authorization to allow capital improvements at the National Zoological Park. This program of improvements is planned to be accomplished over a period of years so that the National Zoological Park may be continued in daily operation without general disruption and inconvenience to the millions of visitors who come to the zoo from every State in the Union. It is estimated that $950,000 will be required in 1963, and that varying annual amounts will be required in the next 10-year period.

INCREASES REQUESTED FOR 1963

I should like now to discuss the need for increases over last year, as shown in the "Salaries and expenses" part of the request for Smithsonian appropriations for 1963 that is before you.

Funds totaling $1,076,000 are requested to accomplish the preparation, moving, and installation of exhibits and collections for the new Museum of History and Technology Building. These funds are also required to provide building services and related costs for the partial operation of this great building.

The estimates before you also include a request for $122,000 for moving and storing museum materials, as well as for moving scientific and related equipment, and for building services during partial occupancy in 1963 of the east wing of the Natural History Building.

The sum of $92,000 is requested to provide needed staff to prepare exhibition plans for the national collection of fine arts in the old Civil Service Commission Building and to provide for the initial staffing and related costs of the National Portrait Gallery, which is also to be housed in the old Civil Service Commission Building.

The Smithsonian is also requesting a net increase of $275,000 for certain areas of scientific research. These added funds will be used to extend scientific research in the great national scientific collections which are increasingly used by visiting scientists from all over the country, and at the Astrophysical Observatory to advance research programs in the field of astrophysics, which is now recognized as one of the most important basic fields of all science. In the field of astro-

physics, the Smithsonian has been a very important center of research, recognized throughout the world for over 80 years.

An additional $250,000 is included in our "Salaries and expenses" request to allow the broadening of the Smithsonian's scientific work in the field of oceanography, in which we have been active in a small way for a great many years. These funds will enable the Institution to employ additional scientists and specialists, and to provide for other related costs so that the Smithsonian can perform necessary biological studies absolutely required in this new and very important national program. This program is dedicated to an increase in our understanding of the oceans and their potential value to man as a source of food and in other ways. The special services of the Smithsonian in this field will not duplicate other research, and this work is already well recognized throughout the world.

Funds in the amount of $70,000 are necessary to provide for the required conversion of combined sewerage systems to separate systems for the Smithsonian buildings on the south side of the Mall. This is part of the District of Columbia's program to eliminate pollution of the Potomac.

The papers before you include a request for an item of $60,000 to carry out the purposes of the act approved on August 31, 1961, which established a National Armed Forces Museum Advisory Board in the Smithsonian Institution.

An additional $319,000 is requested to provide for an urgently needed first-aid unit for the benefit both of our workers and of our millions of visitors and for increases in travel rates as authorized by the act of August 14, 1961; for mandatory within-grade promotions; and for reclassifications in accordance with required Civil Service Commission standards. All these are explained in detail in the document before you.

ZOO BYPASS

May I also say at this time that the National Capital Parks of the Department of the Interior this year is again requesting funds for a road and tunnel that will bypass the National Zoological Park. This road seems most desirable. It will allow traffic to move through the Rock Creek Valley without, as at present, cutting through the National Zoological Park, where it now disturbs the animals in the collections and interferes with the safety, free access, and movement of the millions of visitors to the zoo.

The funds for this improvement are included in the request of National Capital Parks and are not included in these estimates that are before you.

May I again, Mr. Chairman and members of the committee, express my appreciation to you for allowing me to present this statement. The justifications before you give the details of the requests for 1963. And I will be honored to try to answer any questions that you may have.

Salaries and Expenses

Object classification

[In thousands of dollars]

		1961 actual	1962 estimate	1963 estimate
	SMITHSONIAN INSTITUTION			
11	Personnel compensation:			
	Permanent positions	4,989	5,690	7,270
	Positions other than permanent	82	92	92
	Other personnel compensation	62	41	42
	Total, personnel compensation	5,133	5,823	7,404
12	Personnel benefits	372	419	536
21	Travel and transportation of persons	92	88	126
22	Transportation of things	85	71	78
23	Rent, communications, and utilities	329	390	531
24	Printing and reproduction	290	240	250
25	Other services	469	407	685
26	Supplies and materials	335	418	405
31	Equipment	955	647	549
	Total, Smithsonian Institution	8,060	8,503	10,564
	ALLOCATION TO GENERAL SERVICES ADMINISTRATION			
24	Printing and reproduction	2	4	4
25	Other services	85	119	94
32	Lands and structures	383	296	308
	Total, General Services Administration	470	419	406
	Total costs	8,530	8,922	10,970
	Change in selected resources	−430	163	384
	Total obligations	8,100	9,085	11,354

Personnel summary

	1961 actual	1962 estimate	1963 estimate
Total number of permanent positions	957	1,110	1,352
Full-time equivalent of other positions	17	18	18
Average number of all employees	895	1,013	1,289
Number of employees at end of year	918	1,156	1,397
Average GS grade	6.6	6.9	6.8
Average GS salary	$6,093	$6,212	$6,196
Average salary of ungraded positions	$4,635	$4,531	$4,645

Mr. Kirwan. A total of $11,354,000 is requested for salaries and expenses, an increase of $2,264,000.

We shall insert in the record pages 1 through 40.

(The pages referred to follow:)

Salaries and Expenses

General Statement

The Smithsonian Institution was created by act of Congress in accordance with the terms of the will of James Smithson of England who bequeathed his property to the United States of America "to found at Washington, under the name of the Smithsonian Institution, an establishment for the increase and diffusion of knowledge among men." The social import of the Smithsonian's broad and inspiring charter has never been more obvious than it is in today's atomic age when the great modern achievements in science and technology call for the widest and most liberal basis of understanding. A great responsibility rests

upon those institutions and individuals into whose hands has been placed the preservation of our cultural and scientific heritage to provide in every effectual way those sources of intellectual power so that every citizen may aspire to an understanding of this complex modern world.

The Institution is in the midst of extensive building and modernization programs which have already had their impact upon the visting public. In 1961 there were 7,103,474 visitors to the Smithsonian buildings exclusive of the National Gallery of Art and the National Zoological Park. This is an all time high and represents an increase of 608,844 over 1960. This amazing growth in public interest is due to the many new, vital, and effective renovated museum halls which have been opened to the public during the past few years. The Institution's renovation of exhibits program was begun in 1954 and since then 24 renovated halls have been opened to the public. Each of these revitalized exhibit areas is really a museum in itself and each has great visitor attraction potential from an educational standpoint. Aided by the modern exhibit techniques now available, the story of man and his world unfolds before the visitors as he walks from hall to hall. It is inspiring to watch these visitors passing in great streams through the doorways of our buildings. They come in order to see important exhibits which they know in sum total can be viewed nowhere else in the world. Most of them surely leave with an understanding which they could gain in no other way of the multitude of factors that have shaped the life of modern America.

The Institution embraces the world's largest museum complex with over 55 million cataloged objects, many of which are used by scientists and technologists in connection with important research programs. A great museum must be more than a laboratory or a showcase. It must be a center of interpretation and inspiration for its millions of visitors. The Smithsonian has always been thought of as a center of scientific research. One index of the productivity of this research organization is found in the more than 10,000 specialized volumes and monographs that the staff of the Institution and their collaborators have written and distributed to the learned world. The Smithsonian has become one of the world's centers for the scientific study of geology, botany, zoology, and anthropology. In such other fields as astrophysics, physiology of living plants, and tropical biology it maintains notable research programs.

Scientific and other scholarly research, educational exhibits, publication of new advances in knowledge, facilitating the worldwide interchange of published scientific and literary information, and within the Institution's resources, the fostering and stimulating of scholarly endeavor—these are all part of the work of today's Smithsonian.

EXPLANATION AND JUSTIFICATION OF CHANGE IN APPROPRIATION LANGUAGE

The change in language inserts the phrase "of the Smithsonian Institution, not otherwise provided for"; to provide for the support of the National Armed Forces Museum Advisory Board and the administration of the National Portrait Gallery. This language is required in part to implement the provisions of Public Law 87–186, approved August 31, 1961, to provide for expenses necessary "to establish a National Armed Forces Museum Advisory Board of the Smithsonian Institution and to authorize expansion of the Smithsonian Institution's facilities for portraying the contributions of the Armed Forces of the United States, and for other purposes." The language change will also provide for necessary expenses in carrying out the development of a National Portrait Gallery in the Smithsonian Institution, as authorized by Public Resolution 95, 75th Congress, dated May 17, 1938 (20 U.S.C. 76).

Leadoff tabular statement

Appropriation act, 1962	$9,125,000
Proposed 1962 supplemental due to wage increases	+76,000
1962 rent item transferred to GSA	−40,000
1962 nonrecurring rent item	−35,000
Apparent base for 1963	9,126,000
1962 wage increases not included in 1963 estimates	−36,000
Actual base for 1963	9,090,000
Budget estimate, 1963	11,354,000
Increase, 1963	2,264,000

Summary of increases and decreases, 1963

(1) To provide funds to continue the preparation, moving, and installation of exhibits, collections, and parts of the museum's activities into the new Museum of History and Technology Building; for partial operation of that building; and for related costs	$1,076,000
(2) To provide for moving and storing museum materials, as well as moving office and laboratory equipment, in connection with the construction of additions to the Natural History Building and for building services during the partial occupancy of the east wing	122,000
(3) To provide staff to prepare exhibition plans, improve conditions of existing National Collection of Fine Arts collections, initiate action for filling gaps in existing art collections, to prepare inventory and records for transfer to the old Civil Service Commission Building, and other costs	37,000
To provide for the initial staffing and related costs of a National Portrait Gallery	55,000
(4) To provide for additional scientific research	295,000
Completion of Catlin painting renovation project	−20,000
(5) To provide funds for conversion as required of combined sewerage systems to separate systems	70,000
(6) To provide for broadening the U.S. National Museum's efforts in the field of oceanography	250,000
(7) To provide for the support of the National Armed Forces Museum Advisory Board	60,000
(8) To provide for a health unit, for increases in travel rates authorized by the act of Aug. 14, 1961, for within-grade promotions, and reclassification costs	319,000
Net increases	2,264,000

(1) An increase of $1,076,000 is required to provide funds to continue the preparation, moving, and installation of exhibits, collections, and parts of the museum's activities into the new Museum of History and Technology Building; for partial operation of that building; and for related costs.

Need for increase: The Museum of History and Technology Building is scheduled to be ready for partial occupancy in October 1962 and complete occupancy in March 1963. Advance occupation by the Smithsonian Institution of certain exhibition space and maintenance and operation work areas will speed the opening of the building to the public. The preparation and installation of exhibits, begun in 1962, will be accelerated and continued during the entire year 1963. The movement of staff, equipment for laboratories and workrooms, and the transfer of reference collections will begin upon completion of the building and continue through the year. The following increased workload will result:

(*a*) The U.S. National Museum staff will plan and participate in the design, construction, and installation of exhibits for the new building; plan and prepare for the move of the staff and collections to the building; and move part of the museum's activities to the building from various locations.

(*b*) The Buildings Management Department will provide such services as protection, cleaning exhibit and installation areas, laboratories, and offices; moving, loading, unloading, and placing operations; servicing and operating refrigeration, heating, temperature and humidity control systems and related machinery, accessories, and controls; assisting the exhibits staff in assembly and installation of exhibit cases, displays, special lighting, and equipment; building temporary partitions and protective enclosures for safeguarding exhibits; performing minor repairs, refinishing, and touchup painting incident to the installation of exhibits; assembling, installing, and servicing laboratory, shop, and special storage equipment.

(*c*) The administrative and service units of the Smithsonian Institution will have increasing demands made upon them because of accelerated museum activities. More payroll actions and vouchers will be processed; the volume of correspondence and shipping will continue to increase, more stock items will be used; and more services will be required of the Photographic Services Division and the Library. The Smithsonian Museum Service will expand its activities to share with the public the advances being made in the U.S. National Museum.

Plan of work: The increase will be used as follows:

(*a*) To employ 23 professional curators, museum aids, and clerical employees and 9 exhibit workers in the U.S. National Museum and provide for related personnel benefits	$182,000
(*b*) To annualize the cost of full-year employment of 86 positions (40 man-years in 1963) financed on a part-year basis in 1962 and to employ the full-time equivalent of 82 supervisory and operating personnel, guards, laborers and cleaners, mechanics, electricians, carpenters, and painters in the Buildings Management Department; to provide funds for personnel benefits; increased cost of electricity, including air conditioning, gas and steam; for contractual services for moving of special equipment and heavy exhibit objects to the new building; to purchase lumber, hardware electric lamps, paint, plaster, wallboard, plumbing fittings, electric supplies, and related items	733,000
(*c*) To employ 11 clerical assistants, 2 photographers, 2 docents, and 2 messengers, provide funds for personnel benefits; additional payments to Post Office for penalty indicia; transportation costs; other contractual services; for payments to Employees Compensation Board; supplies, books, and office and library equipment	161,000
Total increase	1,076,000

(2) An increase of $122,000 is required to provide for moving and storing museum materials, as well as moving office and laboratory equipment, in connection with the construction of additions ot the Natural History Building and for building services during the partial occupancy of east wing.

Need for increase: The Congress appropriated funds in 1961 for the rehabilitation and modernization of the Natural History Building and construction of the east wing. In 1962 additional funds were appropriated for the construction of the west wing and completion of the project. Construction commenced early in January 1961 and the east wing will be completed by March 1963. The entire project is to be completed by April 1964. Large-scale moving operations will have to be undertaken. In 1963 partial occupancy of the east wing will begin. Major moves of entire divisions will be underway involving relocation of large numbers of storage cases containing valuable and delicate specimens, many of which are irreplaceable, exhibition cases, museum objects, office furniture, equipment, and supplies. Upon completion of the required alterations in the areas vacated by activities moved into the east wing, other divisions will be transferred to this space. The partial occupancy of the east wing will require such services as protection, cleaning laboratories and offices, servicing and operating refrigeration, heating, temperature and humidity control systems; and performing minor repairs, alterations, and touchup painting.

Plan of work: The increase will be used for the Buildings Management Department as follows:

(*a*) To employ the full-time equivalent of 16 supervisory and operating personnel, guards, laborers and cleaners, mechanics, electricans, carpenters, and painters	$71,000
(*b*) To provide funds for personnel benefits; for increased cost of utilities, including electricity, air conditioning, steam, and gas; to purchase lumber, hardware, electric lamps, paints, plaster, wallboard, plumbing fittings, electric supplies and related items for temporary partitions and protective enclosures during construction, and for cleaning and maintaining areas after completion; and to purchase cleaning equipment, powered scrubbing machines, floor machines, shop equipment, material handling equipment, trucks, ladders, fire extinguishers, and fire hose	51,000
Total increase	122,000

(3) An increase of $92,000 is required for national art galleries in connection with the move into the old Civil Service Commission Building.

Need for increase: (*a*) National Collection of Fine Arts. For many years, due to limited space, only a small portion of the objects in the National Collection of Fine Arts have been shown to the public and those which have been exhibited

have been incongruously displayed in the Museum of Natural History. Many of the approximately 5,000 items in its collections are on loan and arrangements must be made for their return to the Institution when they are needed for exhibition in the new gallery. Prior to the move to the old Civil Service Commission Building, a complete inventory of items must be made and the files and records reorganized. Renovation and restoration work will be accelerated to put the paintings and other objects, many of which have been in storage, in exhibitable condition. Gaps in present collections will need to be identified and action initiated to fill them either by gift or loan, in order to provide an effective exhibit in the new gallery when it becomes available.

The larger, improved quarters will permit a better display of sculptures. Many of the 250 sculptures in the present collection need to be restored, properly described and labeled, and biographies of artists and designers prepared. Detailed plans must be made for placing and lighting these sculptures in the permanent National Collection of Fine Arts exhibition, including a central sculpture court, and in temporary shows. In addition, the National Collection of Fine Arts hopes to augment its collection of sculptures through gifts and loans.

The 1963 request is to initiate the work required. Final preparation and organiation of exhibits will follow in 1964 so that they will be ready when the renovation of the Civil Service Commission Building has been completed.

(b) National Portrait Gallery. The act of March 28, 1958 (72 Stat. 68) provides for the transfer to the Smithsonian Institution of the old Civil Service Commission Building. Legislative history indicates that the intent of the Congress was to provide adequate quarters for both the National Collection of Fine Arts and a National Portrait Gallery.

Senate Report No. 1354 (85th Cong., 2d sess.), supporting the enactment of this law, stated in part:

"An art museum building is urgently needed to display national collections of fine arts, comprising paintings, sculptures, bronzes, glass, porcelain, tapestry, furniture, jewelry, and other types of art. It would also be used to display portraits of eminent American men and women, and to exhibit the works of artists deserving of recognition."

It is expected that the building will be available to the Smithsonian Institution for renovation in 1963 and for occupancy in 1964.

Public Resolution 95, 75th Congress, dated May 17, 1938 (20 U.S.C. 76), sets forth the objectives of the Smithsonian Gallery of Art, predecessor of the National Collection of Fine Arts.

In the House committee report on this resolution (Rept. 1900, 75th Cong., 3d sess.), the purpose of establishing a portrait gallery is clearly spelled out, as follows:

"The committee are further impressed by the lack of a gallery where portraits of eminent national characters may be worthily displayed to inspire emulation on the part of rising generations. In this, the Government is behind the practice of other enlightened countries, where national portrait galleries are notable institutions."

The Senate committee report (Rept. 1610, 75th Cong., 3d sess.) indicated the intent of the Congress to establish a portrait gallery as follows:

"The resolution proposes to take initial steps toward establishment of an art gallery for the preservation and proper public exhibition of three classes of art: First, the art objects owned by the Government in what is termed "The National Collection of Fine Arts," which are at present housed in inadequate quarters in the U.S. National Museum; second, the portraits of eminent Americans, of which the Government owns many; third, objects of contemporary American art."

The act of May 17, 1938, included the following authorization:

"* * * to display portraits of eminent American men and women."

Space has been the limiting factor in our efforts toward developing a worthy gallery of portraiture and sculpture. The transfer of the Civil Service Commission Building to the Smithsonian will answer this problem.

In order to prepare a suitable exhibit of portraits and statuary that will be ready to move into the Civil Service Commission Building after it has been remodeled, considerable work needs to be done in 1963.

A director and assistants will be required to make plans for exhibiting portraits and other objects in the portrait gallery. This will involve considerable research; location and acquisition of portraits and sculpture; restoration and care of portraits and other art objects which are acquired; the establishment of

records of materials available immediately for transfer to the gallery or which may be available for loan or later acquisition; and the preparation of a detailed script for each hall of the gallery.

Travel funds will be required by members of the proposed National Portrait Gallery Commission and the Director and curators in carrying out their investigations of available portraits and doing comparative research on exhibition techniques and other portrait layouts. Funds for transportation of things, communications, and supplies will be necessary in modest amounts. It will be necessary to contract with experts for special exhibits plans, special lighting studies, or related activities in preparation for opening the National Portrait Gallery. Equipment such as desks and office equipment will be needed for establishing new offices.

Plan of work:

(*a*) National Collection of Fine Arts: To employ 1 curator, 1 museum aid, and 3 clerical assistants and to provide additional funds for personnel benefits, contractual services, supplies, and equipment	$37,000
(*b*) National Portrait Gallery: To employ a director, 2 curators, 2 clerical assistants and consultants, to provide for personnel benefits, travel, transportation, communications, other contractual services, supplies, and equipment	55,000
Total increase	92,000

(4) A net increase of $275,000 is required to provide for additional scientific research in (*a*) the U.S. National Museum; (*b*) the Astrophysical Observatory and (*c*) the Canal Zone Biological Area.

Need for increase: As the first organization in America to maintain a full-time staff of research workers across the broad fields of sciences, the Smithsonian has played a major role in the surge of American scientific progress during the past century. It helped to stimulate such new sciences as meteorology, aeronautics, and rocketry. Activities in which it was an originator ultimately led to the formal organization of such Federal agencies as the Weather Bureau, the Fish Commission (now part of the Department of the Interior), and the National Advisory Committee for Aeronautics (now the National Aeronautics and Space Administration). Smithsonian staff also participated in the organization of the National Geographic Society and the American Association for the Advancement of Science.

In fulfilling its mission, the Smithsonian Institution has, since its foundation, carried on an estimated 2,000 expeditions to almost every part of the earth. Many of these expeditions were conducted in collaboration with other institutions and granting agencies. The Institution's optical satellite tracking observatories girdle the globe. Scientists and scholars in increasing numbers use its laboratories, its vast and in some respects unequaled museum study collections, and its scientific working library of approximately 500,000 titles.

Specific missions of research units in the Institution are described as follows:

(*a*) The U.S. National Museum. This museum is considered to be a biological bureau of standards by natural history investigators throughout the world. They look upon the museum collections as a valuable and irreplaceable scientific reservoir of accurately classified and documented materials which support their investigations. This determination stems from the universal acceptance of the fact that well-documented museum collections are fully interrelated to research endeavors.

This museum concentrates its research activities in four subject matter fields—anthropology, botany, geology, and zoology—to extend the boundaries of human knowledge of many aspects of the earth and of living organisms. This research on plants and animals, both living and extinct, embraces classification, nomenclature, morphology, relationships, variation, evolution, geographic and geologic distribution, life histories, functional adaptations, and structural modifications.

More than 1,500,000 different and recognizable kinds of animals and plants have already been named and described but estimates of the actual number living today extend upward to 10 million. Many of these organisms, known or currently unknown, are of great significance and their precise identification is of crucial importance in such applied fields of endeavor as preventive medicine, agriculture, and forestry as well as in related branches of pure science such as ecology, population genetics, and animal behavior. Most branches of basic and applied biology deal with specific properties of species. Accurate identification

is the key to a wealth of recorded knowledge as well as the solution of many practical problems.

Anthropological studies are concerned with the differentiation of human groups, the cultures and life histories of peoples as groups, and the material cultural achievements of prehistoric peoples of the world.

In the area of paleobotany, studies deal with the anatomy and growth series of fossils, the geographic and stratigraphic variation of fossils, and the stratigraphic distribution and paleocology of all types of invertebrate fossils and plants. Correlated fieldwork in these four major divisions of natural history increases the breadth, coverage, and scope of materials available for study.

The important basic studies underway by the biologists of the U.S. National Museum, as well as the related work of the geologists and anthropologists, will be greatly facilitated by the completion of the east and west wings of the Natural History Building, scheduled for occupancy in 1963 and 1964, respectively. Additional scientists and supporting staff are urgently required to extend scientific research in neglected areas, to reorganize some of the national scientific collections, and to prepare them for moving into the new wings.

More specifically, the Museum requires specialists in the following fields: physical anthropology; plant morphology and anatomy; paleobotany, the study of fossil plants so essential to a knowledge of the evolution of modern plants; specialized insect groups among the Lepidoptera (including moths) and Coleoptera (beetles); and avian anatomy. One analytical chemist is required for the newly organized Analytical Laboratory. While these are not the only areas in which the Museum lacks specialists, they are among the most important in the development of an adequate corps of scientists.

(*b*) The Smithsonian Astrophysical Observatory. The Observatory with headquarters in Cambridge, Mass., is involved in a broad and diversified research program which includes solar radiation, solar astrophysics, the upper atmosphere, meteors, meteorites, artificial satellites, and problems of space science.

Additional scientific staff and services are required by the Astrophysical Observatory for its programs to design specialized equipment and conduct field testing; to detect stellar and solar radiation image registration other than photographic; direct research on an ultraviolet survey of the sky and spectroscopic studies of selected celestial objects; develop a program of electronic image conversion whereby artificial earth satellites may be tracked by photoelectric methods; conduct research on meteorites with electron probe analyses and make mineralogical analyses; analyze meteorites for stable isotopes; assist with the meteorite program by predicting the location of falls by precision tracking methods; and study techniques for focusing X-rays.

Division of Radiation of Organisms. This Division is a research unit of the Smithsonian Astrophysical Observatory. The research mission of this separate unit is to study the effect of solar and other types of radiation and the basic problems of radiation biology at the cellular, subcellular, and molecular levels. These studies involve both ionizing and nonionizing radiation. Specific investigation is concerned with such areas as solar energy measurements concerning specific spectral regions and their influence on plant growth and development; influence of ionizing (X-rays) and visible radiant energy on pigment formation and on chromosome aberrations, studies involving the effects on the blue region of the visible spectrum on the growth movements of plants toward or away from the light source (phototopism), and biochemical studies involving the enzyme systems associated with photosynthesis. Fundamental studies are conducted in the field of radiation biology with primary interest in the absorption of energy of the electromagnetic spectrum and the transference and utilization of this energy by plants and animals.

Additional technicians are required to support the professional staff in operating the carbon-dating laboratory which was established with funds appropriated in 1962, and in conducting research on solar radiation and its effect on biological organisms. The addition of several specialized pieces of equipment will greatly facilitate this research. For example, a phase contrast microscope makes visible the variations in the brightness of transparent objects which permits the observation of minute structural details of organisms; a fluorescent microscope uses an intense ultraviolet light source and permits observations of the variations in the fluorescence emitted from a specimen; an automatic, high-speed Coulter cell counter gives an accurate count of particles in suspensions; and an eletrophoresis apparatus is used in the separation, isolation, and identification of large molecules obtained from biological preparations.

(*c*) The Canal Zone Biological Area: This laboratory on Barro Colorado Island was established to provide a tropical research station where scientists and qualified students can study plants and animals in their natural surroundings. Original studies of behavior, ecology, life history, physiology, and specialized habits of animal life are conducted. Plant ecology, plant succession, and taxonomy are included in the research program. Rainfall, humidity, and temperature are recorded daily. Scientists from Federal agencies, universities, private organizations, and foundations and foreign professional workers carry on investigations of the fauna and flora of the area. Over 1,000 scientific articles have been written on the basis of research performed at this station.

A modest increase in personnel is required to assist in caring for various types of organisms involved in continuing research studies. The success of all such studies depends almost wholly on the maintenance of this experimental material.

(*d*) The Bureau of American Ethnology. This Bureau conducts archeological, linguistic, and ethnological research principally among the American Indians and the natives of lands under the jurisdiction or protection of the United States. Included is research on the material culture, social organization, and customs of these people. Much of the Bureau's work is conducted in cooperation with Federal agencies, and with universities, private foundations, and professional groups in these subject matter fields.

Plan of work: The requested net increase of $275,000 related to the research programs of the Smithsonian Institution will be utilized as follows:

(*a*) To employ 1 analytical chemist, 9 natural history specialists, 4 subprofessional aids, and 2 clerical assistants for the U.S. National Museum and to provide funds for personnel benefits	$118,000
(*b*) To employ 2 physicists, an astrophysicist, and an astronomer for the Astrophysical Observatory and to provide funds for personnel benefits, contractual services for electronic computer services, supplies, and equipment	146,000
To employ a chemical technician, 2 laboratory technicians, and an instrument maker for the Division of Radiation and Organisms and to provide funds for personnel benefits, contractual services, and equipment	27,000
(*c*) To employ an animal keeper and a technician in the Canal Zone Biological Area and provide for related personnel benefits	4,000
(*d*) Reduction in the base for fiscal year 1963	—20,000
Net increase	275,000

While the increases listed above total $295,000, a net increase of $275,000 is being requested. The 4-year program in the U.S. National Museum to renovate the valuable Catlin paintings will be completed by the end of 1962. Completion of this program will result in a reduction of $20,000 in the 1963 base for contractual services.

(5) An increase of $70,000 is required for the rehabilitation of buildings program to permit the conversion of combined sewerage systems to separate systems.

The following rehabilitation projects are proposed for completion in 1963:

Natural History Building (1911).—It will be necessary to revise the electrical wiring, lighting, and controls in the auditorium of the Natural History Building in order to provide increased efficiency in the operation of this facility for scientific meetings and special events.

Arts and Industries Building (1881).—Window frames and window sashes must be replaced in the Arts and Industries Building and exterior woodwork repaired. The frames and sashes around the rotunda dome and the large windows of the four main halls have deteriorated over the years and present a safety hazard to the exhibits and to visitors and staff. This building is not air conditioned and the windows, which were intended to be opened for ventilation, must now be kept closed in all seasons because of their condition.

Smithsonian Building (1855).—It will be necessary to make extensive repairs to the window frames, exterior metal, wood, and stonework of the Smithsonian Building to prevent damage by weather and improve the appearance of the building. Weather has caused many mortar joints to separate, allowing moisture to come through to the inner surfaces of the walls. The soft stone of the building has become discolored and streaked and requires waterproofing and preservative treatment.

Freer Gallery of Art (1922).—The exterior surfaces of the Freer Gallery must be repaired and cleaned and the ceilings and walls of certain of the exhibition galleries and corridors refinished.

The exterior stone has not been resurfaced since the building was completed in 1922, and the accumulation of dirt, grime, streaks, and stains should be removed to improve the appearance of the building and the mortar joints must be inspected and repaired.

No major interior repairs have been made since 1955. Numerous plaster cracks have developed, wall coverings have blistered and loosened, and painted surfaces have become soiled and marred.

Related costs: In addition to the projects listed above, the estimate provides for recurring expenses such as utilities, supplies, and the replacement of cleaning and shop equipment which is outmoded and worn.

Conversion of combined sewerage systems to separate systems: The Smithsonian Institution was recently informed of the program of the District of Columbia to eliminate pollution from the Potomac River.

The District of Columbia is served by two systems of sewers. The older sections are sewered on the combined system. In this area all sewage, both storm runoff and domestic, is carried in a single system of pipes and, during periods of moderate to heavy rainfall, necessarily discharges into our water courses a mixture of rainwater and sanitary sewage.

Separate system areas, which drain the balance of the city, are provided with two sets of pipes, one for domestic sewage, the other for rainwater. Domestic sewage is delivered to the sewage treatment plant and rainwater is discharged into the nearest stream.

The redevelopment of Southwest Washington has advanced the conversion of existing sewer systems to separate systems. The buildings of the Smithsonian Institution on the south side of the Mall have the combined sewerage systems in accordance with practice at the time of their contruction. An expenditure for this purpose is required in view of the District's antipollution program, the expressed interest of the National Capital Planning Commission in the separation of the sewers, and the active support of the U.S. Public Health Service for this antipollution program.

Plan of work: The Buildings Management Department will require $239,000 to continue the rehabilitation of buildings program at the 1962 approved level and to permit the conversion of combined sewerage systems to separate systems. The following projects are included in the 1963 program:

Natural History Building, $5,000: To install effective lighting fixtures, replace an outmoded electrical distribution system, and install modern equipment to control general illumination and required special lighting.

Arts and Industries Building, $25,000: To remove deteriorated window frames and sashes, install new window frames, sashes, hardware, and flashings, repair and recalk these areas, reputty the windows, and paint all exterior woodwork and metal of the building.

Smithsonian Building, $40,000: To calk, putty, and paint all window sashes, exterior wood and metal work and to repoint the stonework, waterproof certain walls, and apply a preservative treatment to the stonework.

Freer Gallery of Art, $60,000: To repoint and recalk joints and resurface exterior of building; and repair damaged or loosened plaster: recover wall surfaces; paint ceilings, trim and walls; refinish bases and grilles in the exhibition galleries and corridors.

Related costs, $39,000: To provide for recurring costs for utilities, supplies, and equipment.

Conversion of combined sewerage systems to separate systems, $70,000: Preliminary studies indicate that the conversion to separate systems is feasible and is estimated to cost $70,000 for Smithsonian buildings on the south side of the Mall. Included are needed engineering services, the preparation of plans and specifications, contract work, supervision, and related expenses.

(6) An increase of $250,000 is requested to provide for needed strengthening of the U.S. National Museum's part in the field of oceanography.

Need for increase: The Smithsonian Institution already plays a significant role in the total effort of the United States in the field of biological oceanography. The members of the scientific staff of the U.S. National Museum are recognized for their specialized knowledge of diatoms, foraminiferans, sea anemones, corals, parasitic isopods, amphipods, crabs, and other decapods (shrimp, lobsters), mollusks, and fishes. The Smithsonian Institution, in the extensive biological collections of its National Museum, has the most comprehensive materials for

oceanographic research in this country in most areas of systematic marine biology. These scientists are also responsible for the care of the collections and for correlating the museum's work with studies by outside specialists. This small tariff cannot, however, extend its special knowledge into all the fields of marine biology nor can the scientists now on the museum staff keep pace with the growth of the national collections to be anticipated in the large new oceanographic programs of the United States.

The Smithsonian Institution will cooperate with the Interagency Committee on Oceanography of the Federal Council for Science and Technology in carrying out the following objectives: (*a*) To determine the distribution, kind, and adaptation of the living populations of the sea and to understand the interrelationship of the marine organisms to the physical and chemical properties of the sea; (*b*) to determine if the oceans have been, or are being significantly modified, or how they can be exploited to benefit mankind; and (*c*) to investigate the impact of radioactivity and other pollution on the ocean including but not restricted to the distribution of pollutants, their effects on such organisms, the productive use of marine waters, and the interrelationships among the various conditions.

Thorough and exact knowledge of the distribution of marine plants and animals and of the biology of those organisms as it relates to their control or utilization is dependent to a great degree on rapid and reliable means of identification. The scientific identification of an organism not only indicates its probable relationships, but it is the key to the literature on all phases of its biology and a prerequisite for the retrieval of relevant accumulated data. Of the approximately 200 orders and 150,000 different kinds of organisms that are now recognized in the marine biota alone, very few are covered by comprehensive and up-to-date monographs and revisions upon which must depend reliable and reasonable stable identifications of new specimens. In order that the biological resources of the sea may be fully explored, the nature and identity of the organisms concerned must be known with certainty.

There is no possible way of determining when some little known forms of animal life will suddenly become important to men. For example, there was no incentive to study sponges until the greater part of the Bahamian and Gulf of Mexico sponge beds were wiped out by epidemic disease. Our country became dependent on other regions for sponges. Existing knowledge of even the commercial species was not adequate for the restocking of old sponge beds with resistant species. Until the development of sonar during the last war, the snapping shrimp which abound on tropical reefs were of interest only to the Carcinologist. It could hardly be foretold that these shrimp would become a serious obstacle to the use of underwater sound apparatus in warmer seas, and that a knowledge of their distribution was vitally important in submarine warfare.

The long-range Federal oceanography program includes the establishment of training programs to promote the education of specialists in marine biological systematic research. It is hoped that through such a program enthusiastic students will be encouraged to continue their education toward a career in systematic marine biology. Definitive revisions and monographs of this research will be published so that names of marine organisms can be used in the mechanical retrieval of biological oceanographic data.

In 1963 it is proposed to add to the existing staff two marine ichthyologists, five zoological specialists in the fields of marine worms, sponges, crustacea, echinoderms, and mollusks, two botanists specializing in the microscopic plant components of plankton as well as macroscopic seaweeds, and supporting subprofessional clerical staff. With these additions, the Smithsonian Institution will be able to advance and strengthen its oceanographic efforts and to offer significant support to our national determination to understand the oceans and their life.

A special assistant to the Director of the Museum of Natural History will be required to head this program, to serve as a liaison officer with other Government agencies, museums, and universities, and to aid in recruiting competent scientists. This individual must be a scientist of recognized attainment in some area of biological oceanography and one also who has administrative talent. The museum's expanding oceanographic efforts, which cut across the lines of three existing departments and five divisions, will be supervised and coordinated by him.

The special assistant will be required to travel to establish contacts and to recruit personnel. The scientists will require travel funds to visit other museums to consult historic and new collections, to collaborate with other specialists in various fields of oceanography, to participate in the collection of marine organisms, and to attend scientific meetings.

Additional transportation funds will be required to pay for shipping costs of collections of marine organisms which will be sent to the Institution for study and incorporation in the national collections.

Adequate facilities must be at hand for the systematic storage, arrangement, and immediate availability of reference collections. Proper cataloging and documenting of collections is a most important service which, if neglected, will soon result in chaotic conditions. It is hoped that facilities to become available in 1964 in the wings now being added to the U.S. National Museum will be adequate for most purposes at the outset of this program. Until they become available, however, space will have to be rented to accommodate additional staff members and their equipment and to provide room for sorting and storing incoming collections that will be submitted to the museum by the oceanography program.

It will be necessary to contract with specialists, both in this country and abroad, to undertake critical study of groups that cannot be handled by the museum staff and with experts to prepare the illustrations required for monographs, revisions, and related work that are important in descriptive biology.

Necessary supplies, materials, office and laboratory furniture and machines, and microscopes must be provided for the staff of 22 scientists and assistants.

Plan of work: The increase will be used to employ a special assistant, 9 scientists, and 12 supporting subprofessional and clerical staff, to pay related personnel benefits, and to provide necessary funds for travel, transportation, rental of space, contractual services, supplies and equipment, $250,000.

(7) Funds in the amount of $60,000 are required for the support of the National Armed Forces Museum Advisory Board.

The act of August 31, 1961 (75 Stat. 414) establishes in the Smithsonian Institution a National Armed Forces Museum Advisory Board and authorizes the appropriation of funds to carry out the purposes of the act. The functions of this Board are to provide advice and assistance to the Regents of the Smithsonian Institution on the following:

(*a*) The portrayal of the contributions which the Armed Forces of the United States have made to American society and culture.

(*b*) The investigation and survey of lands and buildings in and near the District of Columbia suitable for the display of military collections, and the preparation of recommendations to the Congress with respect to the acquisition of lands and buildings for such purposes.

The act reaffirms that the Smithsonian Institution shall (1) commemorate and display the contributions made by the military forces of the Nation toward creating, developing, and maintaining a free, peaceful, and independent society and culture in this country; (2) portray the valor and sacrificial service of the men and women of the Armed Forces as an inspiration to the present and future generations of America; (3) demonstrate the demands placed upon the full energies of the people, the hardships endured, and the sacrifices demanded in our constant search for world peace; (4) graphically describe the extensive peacetime contributions the Armed Forces have made to the advance of human knowledge in science, nuclear energy, polar and space exploration, electronics, engineering, aeronautics, and medicine; (5) interpret through dramatic display significant current problems affecting the Nation's security; and (6) provide a study center for scholarly research into the meaning of war, its effects on civilization, and the role of the Armed Forces in maintaining a just and lasting peace by providing a powerful deterrent to war.

To carry out the above objectives, the act reaffirms that "the Smithsonian Institution shall collect, preserve, and exhibit military objects of historical interest and significance."

Need for increase: During 1962, it is expected that members will be appointed by the President to the National Armed Forces Museum Advisory Board; that organization meetings will be held; and that study assignments will be made. During 1963, the Board will furnish progress reports on the scope and character of proposed museum sites to the Smithsonian's Board of Regents. It is proposed that a member of the Smithsonian Institution staff serve as Secretary to the National Armed Forces Museum Advisory Board. Since

he will already have full-time responsibilities he will rely heavily on the assistants provided for in this estimate for 1963 to prepare draft proposals and assemble necessary information for the Board. The Secretary of the Board and his assistants will work closely with curators of existing military collections in the Smithsonian Institution, the Defense Establishments, and elsewhere, to obtain information relating to such collections as well as to assemble ideas on the practical matters of museum scope, organization, preservation, maintenance, and operation. Information on potential sites will also be assembled and studied. All proposed locations, exhibits, and arrangements will have to be tested against the problems of maintenance, accessibility to established visitor traffic, and fundamental value of each museum element which may be suggested.

Plan of work: To employ an administrative assistant and a stenographer to assist the Secretary of the Board (proposed to be a member of the Institution staff), provide funds for personnel benefits, travel, transportation of things, printing, contractual services, supplies and materials, and equipment.

Total increase, $60,000.

(8) Other increases: A total of $319,000 is required to establish a health unit, to provide for increases in travel rates authorized by the act of August 14, 1961, to provide for within-grade promotions and reclassification costs.

Need for increase: (*a*) The act of August 8, 1946 (5 U.S.C. 150) authorized the establishment of health service programs for Government employees. These programs are limited to treatment of on-the-job illness and dental conditions requiring emergency attention, preemployment and other examinations, referral of employees to private physicians and dentists, and preventive programs relating to health. The establishment of such a program in the Smithsonian Institution would offer several distinct advantages. It would provide employees with emergency treatment for colds and other physical disturbances including skin irritations, minor cuts, and bruises. Other intangible benefits such as improved employee morale, greater efficiency, and productivity would be realized since less sick leave time would be utilized by employees because of physical conditions which become aggravated from lack of timely medical care at work. This program would also make it possible for the Institution to maintain its own mass immunization programs in accordance with the recommendations of the Department of Health, Education, and Welfare and provide for a modified employee health maintenance program for employees 40 years of age and over.

In addition to their concern for the health and well-being of the employees, officials of the Institution have been aware for years that more adequate emergency treatment should be available to the millions of visitors who come from all parts of the country. The proposed health unit would provide visitors with treatment in the event of accident or sudden illness.

(*b*) The act of August 14, 1961 (75 Stat. 339–341) increases per diem rates from $12 to $16 and mileage rates from 10 to 12 cents per mile.

(*c*) To provide for within-grade promotions in accordance with the Classification Act of 1949, as amended (5 U.S.C. 1161) and for prior-year authorized classification of positions in accordance with civil service standards.

In 1962 a reduction of 36 man-years of employment was necessary in order to compensate for prior-year classification acts. These classifications were made in strict compliance with civil service standards. The so-called Whitten amendment requires agencies to audit all positions each year for the purpose of confirming or correcting grade allocations and for abolishment of positions found to be unnecessary. In 1961, the Personnel Division was able to overcome a serious backlog and to audit all positions including desk audits of 40 percent of the Institution's positions. It has been found that due to the Smithsonian's expanding programs and the consequential assumption of additional duties and responsibilities by certain members of the staff, more than a normal number of positions audited required reclassification. A forced curtailment of employment was then necessary in order to stay within the allowance for personnel compensation.

The 1962 reduction in authorized positions was applied uniformly throughout the Institution. The proportionate shares of the Museum of Natural History, the Museum of History and Technology, and the Buildings Management Department are the most significant since these constitute the major areas of employment. Included in this reduction were such positions as exhibits workers, typists, museum aids, clerks, mechanics, and laborers, which were held unfilled as they become vacant and then suspended in 1962. Essential services for the Institution's scientific research programs and for the preparation and

renovation of exhibits were necessarily curtailed and the Institution's approved programs were delayed and impaired in direct proportion to the services lost.

In determining the number of positions which could be authorized in 1962 and 1963, full consideration was given to normal turnover, delay in filling vacancies, lag in recruitment for new positions, leave without pay, and similar factors.

Allowance of an increase of $171,000 in 1963 will provide for 36 additional man-years and will permit the Institution to regain the level of employment previously justified and approved.

Plan of work:

(*a*) The establishment of a Public Health Service operated health unit, within the limitations of Public Law 658, 79th Congress, will require an increase of $23,000. Such a unit would serve a population of 1,500 employees and would provide the services of 2 full-time nurses and the part-time services of a medical officer in charge (3 visits per week). Emergency care to an average of 10 to 15 visitors per day would also be provided by this unit. The cost of operation in the first year includes capital outlay for the acquisition of initial equipment which amounts to $3,500. The 1963 estimate represents $15.33 per employee which would be reduced to approximately $13 in succeeding years. This cost estimate and the scope of the unit's services were furnished by the U.S. Public Health Service	$23,000
(*b*) The 1962 costs incident to increased travel rates authorized by the act of August 14, 1961, will be financed from estimated savings. A recent study of the per diem portion of the total travel requirements of the Smithsonian indicates that $14,100 will be required in 1963 for this purpose. However, as a matter of policy, a portion of this additional cost will be derived from savings and economies in other activities so that the amount requested for partial funding of the total cost is	6,000
(*c*) Based on a position-by-position study, the Smithsonian Institution will require additional funds to provide for the cost of within-grade promotions. Allowance was made for representative lapse factors in determining this requirement	119,000
An increase in 1963 is requested to compensate for prior-year authorized classification of positions which were made in accordance with Civil Service Commission standards. This increase will permit a total of 36 additional man-years of employment in various budget activities	171,000
Total increase	319,000

MUSEUM OF HISTORY AND TECHNOLOGY

Mr. KIRWAN. $1,076,000 of the increase is for continuing the exhibit preparation and other work in connection with the new Museum of History and Technology.

What do we now have in the base for this work, and what is the status?

Dr. CARMICHAEL. The base for exhibit renovation?

Mr. KIRWAN. Yes.

Dr. CARMICHAEL. We now have $455,000, and we are requesting that same amount to be used in contract work for the development of the backgrounds, etc.; that are required for the new exhibits. The amount in the base which corresponds to this total increase is $3,101,000, comprised of funds for the Museum of History and Technology staff, our exhibits workers, and for building management and other service units related to the Museum of History and Technology Building.

Mr. KIRWAN. And you are asking for a total increase of $1,076,000. What will this cover?

Dr. CARMICHAEL. The increase includes the payment of our own staff that works in our own laboratories, to provide on an accelerated basis for the very many exhibits that will have to be put in place in the new building. It also includes funds for partial operation of the new building and for related administration services.

Mr. KIRWAN. Please put into the record a statement of obligations and the 1962 base for the Museum of History and Technology.

Dr. CARMICHAEL. Yes, sir.

(The matter referred to follows:)

Analysis of obligations related to Museum of History and Technology

[Dollars in thousands]

	Base for 1963		Increase		Total estimate 1963 related to MHT		Other increases		Grand total 1963	
	Man-years	Amount	Man-years	Amount	Man-years	Amount	Man-years	Amount	Man-years	Amount
Museum of History and Technology	118	[1] 2,147	23	142	141	[1] 2,289	7	[2] 104	148	2,393
Exhibits	94	554	9	40	103	594				
Buildings management department	50	324	122	[3] 699	172	1,023				
Other related administrative services	9	76	17	161	26	237				
Total	271	3,101	171	[3] 1,042	442	4,143				

[1] Includes $455,000 for modernization of exhibits.
[2] This increase is for within-grade promotions and reclassification costs.
[3] $35,000 nonrecurring rent deducted.

RESEARCH PROGRAM

Mr. KIRWAN. In your extensive research work, please tell us what you do in an effort to avoid duplication in the research work being conducted by other Federal agencies and private institutions.

Dr. CARMICHAEL. I will be delighted to try to answer that question.

The Smithsonian is in many ways a unique institution. Our research in connection with the biological sciences, the anthropological sciences, and the geological sciences, is so well known throughout the world, as a result of our publications, that I am confident that there is no undesirable duplication. The professors in the various universities who are working in these fields know our research and many of them come to use to study the collections that we have.

For example, our fish collection is, I think Dr. Kellogg will agree, probably the largest in the world.

Dr. KELLOGG. Probably.

Dr. CARMICHAEL. And therefore people who are working on the classification of new fishes that have been discovered come to us, sometimes interestingly enough from Europe, because they know through publications what we have.

So much for the fact that I can be certain that there is no duplication in these basic old research fields of the Institution.

When we come to the field of astrophysics, this again is a field in which the Smithsonian has been active for 80 years. For a long time it was a very unpopular field of study. Relatively few people thought that it was at all important to know what was in space or how the

radiation came from the sun, but suddenly there has been a tremendous growth of interest in this field.

I think I can say with assurance that the director of this laboratory, Dr. Fred Whipple, who was formerly head of the Department of Astronomy at Harvard, is one of the most eminent scientists in his field in the world, and I am sure that he is in touch with the scientists in other government laboratories. He is also in touch with private research in a way that will make it certain that there is not an improper overlap.

It is true that astrophysics and astronomy are among the best organized of our sciences, and that astronomers keep each other informed about new discoveries even by postcard. The result is, therefore, that I think I can say that there is no duplication here.

I could go on, taking up some other fields; but I really feel that we are peculiarly able to defend ourselves against undesirable duplication, sir.

Construction

Mr. Kirwan. A total of $6,350,000 is requested for construction.

justification of the estimate

Insert pages 41 through 50 of the justifications.
(Pages referred to follow:)

Estimates for Construction

general statement

The Smithsonian Institution is requesting funds for 1963 to remodel the existing Civil Service Commission Building for art gallery purposes and to undertake a capital improvement program at the National Zoological Park in annual stages over an appropriate period of time.

In 1962, $400,000 was appropriated for preparing plans and specifications for the necessary remodeling of the existing Civil Service Commission Building for art gallery purposes. It is anticipated that this building will be available for transfer to the Smithsonian Institution in 1963, when a new building to house the Civil Service Commission is to be completed. A request for $5,400,000 is included in these estimates to provide funds for remodeling at the time the building becomes available to the Smithsonian Institution.

Funds to begin a program of construction, remodeling, and equipping of buildings and other exhibit facilities at the National Zoological Park are also included in these estimates. To initiate this program, which is proposed to be accomplished over a period of years, $950,000 will be required to provide for construction of the first improvements ($790,000) and for detailed planning of improvements to be undertaken in subsequent years ($160,000).

In 1961, $13,500,000 was appropriated for the rehabilitation and modernization of the Natural History Building and the construction of an east wing. This work is progressing well and is expected to be completed by March 1963. In 1962, $4,336,000 was appropriated for construction of the west wing and completion of the entire project. It is anticipated that the entire project will be completed by April 1964.

Construction is continuing on the Museum of History and Technology on Constitution Avenue between 12th and 14th Streets NW. Partial occupancy of certain exhibit and work areas is scheduled for October 1962 or before, and complete occupancy is expected by March 1963.

Remodeling of Existing Civil Service Commission Building

JUSTIFICATION

The Congress by act of March 28, 1958 (72 Stat. 68), provided for the transfer of the existing Civil Service Commission Building (formerly known as the Patent Office Building) to the Smithsonian Institution. Designed by Robert Mills during the administration of President Andrew Jackson, this building is considered an outstanding structure of that period. It is anticipated that the building will be available for transfer by the General Services Administration in fiscal year 1963. Remodeling will be necessary to make it suitable as an art gallery to house the National Collection of Fine Arts and the National Portrait Gallery of the Smithsonian Institution. These two collections will be housed in the building on an equally shared basis.

In order to obtain the information necessary to make an estimate of funds required for detailed plans and specifications for remodeling the building, the architectural firm of Faulkner, Kingsbury & Stenhouse was retained in 1960 by the General Services Administration. This firm submitted a feasibility study upon which the total cost of the renovation was estimated as well as the estimate of the cost of necessary detailed plans and specifications.

Funds in the amount of $400,000 for the preparation of detailed plans and specifications for the necessary remodeling of the building to make it suitable to house certain art galleries of the Smithsonian Institution were appropriated in the Department of the Interior and Related Agencies Appropriation Act, 1962, Public Law 87–122, approved August 3, 1961. It is expected that the building will be made available for transfer in 1963 after the Civil Service Commission moves to its new building now under construction. The General Services Administration has agreed to the transfer at that time.

The 1963 estimate of $5,400,000 will provide for remodeling the building at the time it becomes available to the Smithsonian Institution. The scope of work required to convert the building includes such items as replacing the existing heating system which is over 40 years old; air conditioning; installing necessary humidity controls; replacing the electric system; making necessary structural changes and renovations, such as removing partitions and walls; calking and pointing stonework; cleaning the entire building; repainting; regrinding or replacing existing floors; plastering; and such other work as is required to provide appropriate exhibit facilities for the National Collection of Fine Arts and the National Portrait Gallery. The details of the essential remodeling will be developed in fiscal year 1962 with the planning funds now available.

Public Buildings Service

Estimate of remodeling costs (including planning)

Design and specifications	$330,000
Surveys, etc	29,000
Supervision	175,000
Office expenses, Public Buildings Service	14,000
Improvements	4,917,000
Furnishings and equipment	250,000
Smithsonian Institution	85,000
	5,800,000
Less planning funds appropriated, fiscal year 1962	−400,000
1963 estimate	5,400,000

Construction and Improvements, National Zoological Park

JUSTIFICATION

The Board of Regents of the Smithsonian Institution on May 19, 1961, directed the Secretary to undertake a capital improvement program at the National Zoological Park, in annual stages over an appropriate period of time, to be financed as part of the regular Federal budgetary program of the Institution. The Congress since 1890 has from time to time appropriated such funds for improvements at the National Zoological Park.

The action of the Board of Regents recognized the need to improve present conditions at the zoo. These conditions are described briefly in the following paragraphs:

The Police Headquarters Building (1956) is the only structure erected in the past 20 years. Its condition is satisfactory.

The Office Building (1805), Lion House (1891), Antelope House (1898), bear pits (1902–10) and Monkey House (1906) should be replaced. The buildings are old, in poor condition, and obsolete as exhibition facilities.

The outdoor cages and other exhibit facilities are in fair physical condition but similarly are obsolete by any modern standard of good zoo practice, considering effectiveness of exhibition techniques, safety of the public, and well-being of the animals.

The Bird House (1928–36), Reptile House (1931), Elephant House (1937), Small Mammal House (1937), and public restaurant (1941) are obsolescent, averaging 25 years of age, but can be rehabilitated. Generally, ventilation is poor, heating is not well controlled, lighting is inadequate, cages are small and deteriorating, and exhibition facilities are obsolete.

The electrical wiring and distribution system, the steam distribution system, and the boilers need replacement because of age and obsolescence. Sanitary and storm sewers similarly require rehabilitation and extension.

Parking facilities are grossly inadequate to handle the load on weekends during the most popular visiting season from April through October.

The existing east-west road from Connecticut Avenue to Harvard Street and the north-south road from Potomac Parkway to Rock Creek Park both carry heavy traffic through the zoo. This present traffic and road system creates a hazard to pedestrians, a police problem, and a major disruption of the natural habitat setting of the park.

The needs of the National Zoological Park include outdoor exhibit facilities and indoor exhibit and shelter facilities for the animals; roadways and parking facilities for visitor automobiles and buses; separation of automobile and pedestrian traffic; associated public service facilities; operational buildings; visitor transit system; and the related sewerage, heating, water, and electrical distribution systems.

The program of improvements is proposed to be accomplished over a period of years in order that the National Zoological Park may be continued in daily operation without general disruption or interruption to the several millions of visitors from every State in the Union. A very important additional consideration in scheduling the improvements over a period of years lies in a recognition of national budgetary limitations.

It is estimated that 950,000 will be needed in fiscal year 1963 and that varying annual amounts in a 10-year period will be required for construction. This program will accomplish a most significant improvement in the National Zoological Park, in keeping with its statutory purpose since 1890, "for the advancement of science and the instruction and recreation of the people."

Planning funds in the amount of $85,000 are included for the National Zoological Park in the District of Columbia Appropriation Act for fiscal year 1962. These funds will permit the preparation of detailed drawings and specifications during the current year (1962) for the initial stage of construction.

In fiscal year 1963, the request for $950,000 will provide $790,000 for construction of the first improvements and $160,000 for detailed planning of improvements to be undertaken in subsequent years.

Bird house and exhibits

The first year's program includes improvements to the interior of the existing bird house which will be remodeled to provide suitable exhibits for birds which should be displayed indoors. The remodeling of the inside of the bird house will achieve a greater utilization of existing space in large community cages for a truly pleasing exhibit for public interest and also a pleasanter living environment for the birds. A large, indoor, free-flight area will be developed in which there will be no visual barrier between the birds and the visiting public.

The existing outdoor flight cage will be replaced in a more suitable location adjacent to the bird house. The adjoining area will be landscaped and the required new outdoor cages and pens will be provided, giving the entire area presently devoted to bird exhibits a unity in a parklike atmosphere. Large flightless birds will be exhibited behind dry moats, without fences or bars. Outside exhibits planned for hardy birds will be arranged to achieve maximum

utilization by combining ground-dwelling birds and perching birds in the same cage.

The domed flight cage will provide a large volume of enclosed flight space at relatively low cost. Visitors will be able to walk through the cage and achieve a visual association with the birds in a natural habitat setting.

This will surely become one of the most interesting and outstanding bird exhibits in the world.

Moose and elk, beavers, picnic area

Moose and elk will be shown on a terraced slope enclosed with water and dry moats and including animal shelters. One side of the beaver pond will border on a sunken corridor with windows for viewing the animals under water. The adjacent picnic area will be furnished with tables, benches, shelters, and a refreshment stand for the visitors.

Roads

It is planned to relocate the automobile entrance off Connecticut Avenue to the north. This will make better utilization of the unused northwestern corner of the park and ultimately remove the heavy automobile traffic from the heart of the zoo. Within the limitation of funds, the new road will be constructed around the periphery of the bank which falls to Rock Creek to a point near the existing elephant house. At this point, a temporary connection with the existing east-west road will be made to provide necessary traffic circulation.

When automobile traffic has been relocated from the existing Connecticut Avenue entrance by the completion of the northern roadwork and later, the parking facilities in the northwestern area, space will be made available for the successive development of several major exhibits for hoofed stock and for the new pedestrian plaza which will become the dominant entrance way to the exhibits.

Construction cost estimates

Bird house and exhibits:	
Indoor exhibits (19,600 square foot of floor area)	$306,000
Outdoor exhibits (174,000 square foot of ground area)	288,570
Moose, elk, beavers, picnic area: Outdoor exhibits (98,700 square feet)	98,540
Roads: Connecticut Avenue vehicle entrance and portion of northern Zoological Park roadway	96,890
Total	790,000

Remodeling of Civil Service Commission Building

Object classification

[In thousands of dollars]

		1961 actual	1962 estimate	1963 estimate
	SMITHSONIAN INSTITUTION			
11	Personnel compensation: Positions other than permanent		30	15
12	Personnel benefits		1	
21	Travel and transportation of persons		2	3
25	Other services		7	27
	Total, Smithsonian Institution		40	45
	ALLOCATION TO GENERAL SERVICES ADMINISTRATION			
24	Printing and reproduction		4	16
25	Other services		168	239
	Total, General Services Administration		172	255
	Total costs		212	300
	Change in selected resources		128	4,419
	Total obligations		340	4,719

Personnel summary

	1961 actual	1962 estimate	1963 estimate
Average number of all employees		4	3
Number of employees at end of year		6	3
Average GS grade		9.5	4.0
Average GS salary		$6,750	$4,000

Mr. KIRWAN. $5,400,000 of the new request is for remodeling of the existing Civil Service Commission Building, formerly known as the Patent Office Building.

Please tell us what this remodeling will consist of and when this building will actually be transferred to Smithsonian by the General Services Administration.

Dr. CARMICHAEL. Mr. Chairman, in the statement that I gave you before, I said that this building would be ready, that we would be able to move into this building, by March 1963. But yesterday I learned that there has been, as so often is the case in large buildings—and I would like to emphasize, sir, that I learned this yesterday—that there is a delay in the completion date of the new Civil Service Building.

Mr. KIRWAN. Yes. I wonder, then, if you will need the money this year?

Dr. CARMICHAEL. Mr. Chairman, I hope that you will give us the money. I believe that if you will give us the money, the contract can be let, and that we will then be able to get to work as soon as the Commission gets into its new building.

That will mean that we can start work in the summer of 1963, and all of the details will be handled, and the contract can be ready. If the money is not made available to us until a later date, of course there will be a delay.

Mr. KIRWAN. How long is it before they will get out of the building?

Dr. CARMICHAEL. They had expected the original completion date to be March of 1963. It is now estimated to be July or August of 1963. That will be in the fiscal year 1964.

Mr. KIRWAN. Will you really need the money then before July 1, 1963, which is the beginning of fiscal year 1964?

Dr. CARMICHAEL. Mr. Chairman, if your committee is willing to recommend the appropriation, I can assure you that it will mean that the contract can be let, and I have no doubt that this will mean that there will be a speeding up in the building.

CAPITAL IMPROVEMENTS AT NATIONAL ZOOLOGICAL PARK

Mr. KIRWAN. $950,000 is requested to begin a capital improvement program at the national zoo. Please tell the committee what this program will consist of and specifically what is planned for fiscal 1963.

Dr. CARMICHAEL. Mr. Chairman, last year, after many years of consideration, the Congress of the United States directed that the Smithsonian should present estimates for a capital improvement program at the National Zoological Park.

There has been a very careful study made of a relatively long-term plan to improve the physical facilities of the zoo over a 10-year period.

For next year, to start this work, we have requested $950,000. If this money is granted to us, it will be expended for various purposes. The major items are the beginning of a roadway from Connecticut Avenue that will bypass the main animal centers of the zoo and still allow the traffic to come in. Then we will put a short temporary road back to the general road system that exists now.

It will also provide funds for the rehabilitation of one of the important buildings, the bird building, and provide better facilities for the outside display of birds, that is, for a free-flight cage as it may be called. Many modern zoos have such exhibits.

There is also a smaller item for planning of the work that lies ahead.

This, sir, will allow the start of the long-delayed capital improvement of the National Zoological Park.

Mr. KIRWAN. Please provide for the record a summary of the items covered under the 10-year development program, and estimated costs.

(Information referred to follows:)

NATIONAL ZOOLOGICAL PARK

Summary of construction cost estimates

Roads	$527,760
Ongrade parking (1,200 cars)	671,270
Trackless train (including equipment)	298,510
Exhibit areas, shelters, and enclosures	8,354,020
Administration and cafeteria building	1,849,680
Service, hospital, etc.	1,259,490
Utility systems	1,595,580
Escalator	430,000
Expansion of parking facilities to 2,232 cars	2,159,220
Total 10-year development program	17,145,530

Mr. KIRWAN. Please provide for the record the financial contribution the District of Columbia will continue to make toward expenses at the zoo.

(The information referred to follows:)

The present understanding of the Smithsonian Institution is that the District of Columbia will continue to finance the cost of operation and maintenance of the zoo. The budget for fiscal year 1963 includes under the "District of Columbia" the amount of $1,397,000 for the National Zoological Park, together with an anticipated supplemental appropriation of $79,000.

STATISTICAL TABLES

Mr. KIRWAN. Please insert pages 51 through 62 of the justifications, covering the statements included in the in the appendix.

(The pages referred to follow:)

Salaries and Expenses

Report of averaqe employment by activities

Budget activity	1961 actual	1962 estimate		1963 estimate	Increase or decrease, 1963 over 1962
Management	19	(21)	19	22	3
U.S. National Museum	371	(412)	400	491	91
Bureau of American Ethnology	9	(11)	11	11	0
Astrophysical Observatory	22	(45)	40	51	11
National art collections	7	(11)	12	22	10
National Air Museum	24	(25)	24	24	0
Canal Zone Biological Area	12	(12)	13	15	2
International Exchange Service	11	(12)	11	12	1
National Armed Forces Museum Advisory Board	0	-------	0	2	2
Buildings Management Department	335	(406)	387	532	145
Other general services	85	(94)	96	107	11
Average number of all employees	895	(1,049)	1,013	1,289	276

Note.—The 1962 parenthetical figures represent the man-years approved by Congress.

Report of obligations by activities

Budget activity	1961 actual	1962 estimate	1963 estimate	Increase, 1963 over 1962
Management	$168,000	$223,000	$242,000	$19,000
U.S. National Museum	4,058,000	4,174,000	4,895,000	721,000
Bureau of American Ethnology	81,000	94,000	99,000	5,000
Astrophysical Observatory	373,000	594,000	815,000	221,000
National art collections	72,000	94,000	189,000	95,000
National Air Museum	208,000	216,000	218,000	2,000
Canal Zone Biological Area	52,000	64,000	69,000	5,000
International Exchange Service	94,000	96,000	104,000	8,000
National Armed Forces Museum Advisory Board			60,000	60,000
Buildings Management Department	2,036,000	2,541,000	3,427,000	886,000
Other general services	958,000	[1] 1,065,000	1,236,000	171,000
Total obligations	8,100,000	[2] 9,161,000	[3] 11,354,000	[4] 2,193,000
Appropriation adjustments:				
Unobligated balance lapsing	14,000			
Anticipated supplemental for wage increases		−76,000		
Transfer to GSA for rent		+40,000		
Appropriation or estimate	8,114,000	9,125,000	[3] 11,354,000	[4] 2,229,000

[1] This amount is substantially less than that reflected in last year's submission since funds for personnel benefits which were formerly carried in "Other general services" for the entire appropriation have been distributed to the individual activities.

[2] Includes $76,000 for anticipated supplemental for wage increases and excludes $40,000 for rent which was transferred to GSA.

[3] Excludes $36,000 of the $76,000 proposed1 962 wage supplemental and a $75,000 nonrecurring rent item.

[4] For analysis of increase in 1963 over 1962, see the following statement.

Report of obligations by objects

Object classification	1961 actual	1962 estimate	1963 estimate	Increase or decrease 1963 over 1962
11 Personnel compensation	$5,133,000	$5,894,000	$7,404,000	$1,510,000
12 Personnel benefits	372,000	424,000	536,000	112,000
21 Travel and transportation of persons	85,000	88,000	126,000	38,000
22 Transportation of things	80,000	68,000	81,000	13,000
23 Rent, communications, and utilities	286,000	390,000	531,000	141,000
24 Printing and reproduction	251,000	251,000	253,000	2,000
25 Other services	813,000	873,000	1,067,000	194,000
26 Supplies and materials	327,000	405,000	462,000	57,000
31 Equipment	753,000	768,000	894,000	126,000
Total obligations	8,100,000	9,161,000	11,354,000	2,193,000
Appropriation adjustments:				
Unobligated balance lapsing	14,000			
Anticipated supplemental for wage increases		−76,000		
Transfer to GSA for rent		+40,000		
Appropriation or estimate	8,114,000	9,125,000	[1] 11,354,000	2,229,000

[1] Excludes $36,000 of the $76,000 proposed 1962 wage supplemental and a $35,000 nonrecurring rent item

Analysis of increase in 1963 over 1962

Appropriation total:	
1962 appropriation	$9,125,000
1963 estimate	11,354,000
Increase	2,229,000
Adjusted appropriation:	
1962 appropriation	9,125,000
Transfer to GSA	−40,000
Anticipated supplemental	+76,000
Adjusted 1962 appropriation	9,161,000
1963 estimate	11,354,000
Increase	2,193,000
Appropriation base:	
1962 appropriation	9,125,000
Nonrecurring rent	−75,000
Allowable part of anticipated supplemental	+40,000
Base for 1963	9,090,000
1963 estimate	11,354,000
Increase	2,264,000

SCHEDULE OF RENOVATION OF EXHIBITS

In 1963 the Smithsonian will continue its program of revitalizing the exhibits in the U.S. National Museum. This program, which was begun in 1954, has continued at a steady rate with an average appropriation of $479,200. The same amount that was appropriated in 1962, $455,000, will be required in 1963.

A schedule of the renovation of exhibits program follows:

(1) Completed and opened to the public by the end of 1961:
- (*a*) First Ladies Hall.
- (*b*) The first American Indian Hall.
- (*c*) North American Mammals Hall.
- (*d*) Latin American Archeology Hall.
- (*e*) Bird Hall.
- (*f*) American Cultural History Hall.
- (*g*) Power Machinery Hall.
- (*h*) The second American Indian Hall.
- (*i*) Health Hall.
- (*j*) Military History Hall.
- (*k*) Printing Arts Hall.
- (*l*) Gems and Minerals Hall.
- (*m*) Textiles Hall (1st floor).
- (*n*) Jade Room.
- (*o*) World of Mammals Hall.
- (*p*) Agriculture Hall.
- (*q*) Fossil Fishes and Amphibians Hall.
- (*r*) Textiles Hall (2d floor).
- (*s*) Medicine, Dentistry, and Pharmacy Hall.
- (*t*) Fossile Plants and Invertebrates Hall.
- (*u*) The first North American Archeology Hall.
- (*v*) Numismatics Hall.
- (*w*) Petroleum Hall.
- (*x*) Prehistoric Mammals Hall.

(2) Halls to be completed and opened to the public by the end of 1962:
- (*a*) The second North American Archeology Hall.
- (*b*) Peoples of the Pacific Hall.

(3) Construction partially completed by the end of 1962:
- (*a*) Ocean Life Hall.
- (*b*) Dinosaur Hall.
- (*c*) Peoples of Asia and Africa Hall.

(4) During 1962, drawings will be finished and contracts awarded for the following halls:
- (*a*) Vertebrate Anatomy Hall.
- (*b*) Reptiles and Fishes Hall.

(5) Projects for 1963:
- (*a*) Physical Anthropology Hall.
- (*b*) Old World Archeology Hall.

SMITHSONIAN INSTITUTION
SCHEDULE OF BUILDING PROJECTS
(Dates are Federal Fiscal Years)

	1960	1961	1962	1963	1964	1965	1966	1967	1968
Museum of History and Technology Building	Under construction Approp. received, $36,000,000, 1956 a/								
Natural History Building Additions	Approp. rec'd. for Planning, $800,000, 1958	UNDER CONSTRUCTION a/ Approp. rec'd. $13,500,000, 1961	Approp. rec'd. $4,336,000, 1962	East Wing	a/ Entire Project				
Remodeling Civil Service Building (for Art Galleries)	Pre-planning studies		Planning Approp. received $400,000, 1962	Remodeling scheduled to be in progress Request remodeling Approp. of $5,400,000, 1963					
National Air Museum Building	Pre-planning studies				Request Planning Approp. of $1,820,000, 1964		Scheduled to be under construction a/ Request construction Approp. of $37,680,000, 1966		
National Zoological Park			$85,000 for planning included in D. C. Approp. Act, 1962	CONSTRUCTION AND IMPROVEMENTS Request Approp. of $950,000, 1963	Request approp. of various amounts each year.				

a/ Approximate completion date.

Work performed under grants and contracts from Federal agencies:

GRANTS

There are listed below the agencies and the amounts of grants which the Smithsonian received in 1961 as well as an estimate of the amounts to be received in 1962:

Federal agency	Actual, fiscal year 1961	Estimate, fiscal year 1962
National Aeronautics and Space Administration	$4,765,004	$4,000,000
National Institutes of Health	162,500	225,000
Department of Defense	101,500	269,444
National Science Foundation	425,709	287,500
Federal Aviation Agency	36,000	50,000
Atomic Energy Commission	0	48,441
Other	5,840	0
Total grants	5,496,553	4,880,385

These grants from funds available to Federal agencies enable the Institution to participate in the satellite tracking program; to operate the Science Information Exchange, a clearinghouse for information on research in life and physical sciences; and to conduct research studies in such diverse subjects as obsidian dating, permotriassic reptiles of South Africa, the settlement pattern in the Missouri Valley, taxonomy of the bamboos, taxonomic research in order diptera, cultural history of south Arabia.

A statement of the Smithsonian Institution's functions under the grant from the National Aeronautics and Space Administration follows:

THE OPTICAL SATELLITE TRACKING PROGRAM OF THE SMITHSONIAN ASTROPHYSICAL OBSERVATORY

The Smithsonian Astrophysical Observatory at Cambridge, Mass., through its optical satellite tracking program, is involved in four major research areas:

(1) To develop and gain experience in observational and computational methods for dealing with artificial satellites and space vehicles.

(2) To determine atmospheric densities at very high altitudes and to establish the laws of density variations with altitude, latitude, longitude, daily factors, seasonal factors, and solar activity.

(3) To determine the gravitational potential of the earth and its effect on the motions of satellites.

(4) To determine geodetically the geometric shape of the earth and to tie together the networks of the various continents to within an order of magnitude better than previous methods made possible.

The data for this research is obtained with the help of the Observatory's 12 Baker-Nunn camera stations and approximately 100 moonwatch teams.

The Baker-Nunn camera stations are in Argentina, Australia, Curacao, Florida, Hawaii, India, Iran, Japan, New Mexico, Peru, South Africa, and Spain. During the period January through June 30, 1961, Baker-Nunn satellite tracking stations successfully photographed 16 satellites; the normal workload at any time was 11 different satellites. From January to June 1961, 7,373 successful observations were made by the Baker-Nunn stations, an increase of 31 percent over the same period in the previous year.

Research based on satellite observations is published in Smithsonian Astrophysical Observatory reports and in professional journals. Some of the titles for last fiscal year are: "A Determination of the Ellipticity of the Earth's Equator"; "Effects of Solar Radiation Pressure on the Motion of an Artificial Satellite"; and "The Effect of the Diurnal Atmospheric Bulge on Satellite Accelerations".

In addition these tracking stations were used for astronomical studies in the flare star program operated in conjunction with the 250-foot-diameter radio telescope at Jodrell Bank in England. The program is maintained to determine the feasibility of nearly simultaneous optical and radio detection of flare stars.

It is expected that the next year of operation will increase the value of the optical tracking system through widespread use of matched track predictions,

improved communications between the stations and our observatory at Cambridge, decrease of rejected observations, and modification and factory maintenance of equipment. This will result in an improvement of the overall efficiency of the tracking system. Work will continue in field reduction techniques and replacing current time standards with new high-accuracy, high-reliability timing systems which will make full use of the highly stable reference signals broadcast by very low frequency radio stations.

As examples of other activity, the Moonwatch teams and the Baker-Nunn tracking stations were called upon to acquire 1961 Delta after its radio beacon ceased transmitting. An orbit was obtained and the mission proved successful. They also participated in a tracking back-up mission in the launching of the gamma-ray astronomy satellite, Explorer XI. In addition, they successfully backed the National Aeronautics and Space Administration in a triple satellite launching (1961 Omicron), observing the three objects and obtaining a large volume of data bearing on the identification of the satellites. Moonwatch teams also participated in tracking the final stage rocket that boosted Vostok, the Russian astronaut satellite. By the end of 1960, Moonwatch headquarters had received more than 7,000 observations of Echo, which was launched on August 12, 1960. The positional residuals of these observations were computed by using the Smithsonian differential orbital improvement program (DOI) and served as a basis for evaluating the accuracy Moonwatch teams were achieving in making satellite observations.

Work on our differential orbit improvement program has continued to be an important project. Because of continued advances in satellite orbit theory and in the accuracy of optical observations, and because almost all problems pertaining to satellite orbits are affected by changes in the DOI, Smithsonian programers have worked continuously to improve its efficiency and to develop a new version of the program for more accurate solutions of orbit determination.

CONTRACTS

The Smithsonian Institution also performs research for Federal agencies on reimbursable contracts. The agencies for whom this work was performed in 1961 and the amount of reimbursement together with an estimate for 1962 follows:

Federal agency	Actual, fiscal year 1961	Estimate, fiscal year 1962
National Aeronautics and Space Administration	0	$1,695,000
Atomic Energy Commission	$101,789	100,000
Veterans' Administration	30,000	50,000
Department of Defense	403,904	47,000
Total reimbursable contracts	535,693	1,892,000

This research was primarily in the fields of astrophysics, astronomy, psychology, aeronautics, shark repellents, and marine fauna of the Pacific Ocean.

CAPITAL IMPROVEMENTS AT NATIONAL ZOOLOGICAL PARK

Mr. MAGNUSON. Do you have an estimate on what the total program for the zoo will cost?

Dr. CARMICHAEL. We do, sir.

Mr. MAGNUSON. What is that?

Dr. CARMICHAEL. The estimate is that it will be about at a level of $1.7 million per year.

Mr. MAGNUSON. Over 10 years?

Dr. CARMICHAEL. Yes, sir.

Mr. MAGNUSON. And fairly constant?

Dr. CARMICHAEL. Yes, sir; but the Congress could terminate it at any time. Each year is a unit in itself that will improve it up to that point.

Mr. MAGNUSON. That is all.

Mr. JENSEN. It is always a pleasure to have you before the committee.

Dr. CARMICHAEL. Thank you.

STATUS OF NEW EXHIBITS

Mr. JENSEN. You have quite an ambitious construction program going on. As you know, I was one of the members of this committee that was here a few years ago when you explained to the committee that you had hundreds and thousands of crates and boxes of historical goods, of historical value, that had never been unpacked.

Dr. CARMICHAEL. Yes, sir.

Mr. JENSEN. Now, it was that statement which induced this committee to appropriate money for your new buildings, as you will remember.

Dr. CARMICHAEL. I do indeed, sir.

Mr. JENSEN. Are there any of those goods that I just spoke of now on display?

Dr. CARMICHAEL. Yes, sir.

Mr. JENSEN. Where?

Dr. CARMICHAEL. May I describe the present state of the development of our new displays?

We have, as a result of the funds that the committee has given us for our renovation-of-exhibits program, developed 24 halls; and in each one of those halls——

Mr. JENSEN. What is a hall?

Dr. CARMICHAEL. A hall is a little museum. It is a unit of the museum. In many places one of our great halls alone would be a museum.

Let me give a typical example of just the things that you are referring to, sir, in the case of our American Indian hall, the second American Indian hall. This hall is new. In this hall, I presume there are probably 10,000 objects, almost all of which were in storage and never available for the visitor before your program made their display possible.

Let me take one dramatic example. There is probably the best teepee in any museum anywhere in the world on display in this hall. This teepee was collected by the Army on the plains right after the Civil War, brought on, and made into a big exhibit in the great centennial exhibition in Philadelphia in 1876.

After the centennial closed in Philadelphia, one of my predecessors—I am the seventh head of the Smithsonian in 116 years—Dr. Baird, who had been up at Philadelphia working on the exhibits for the centennial, was able to get many important exhibits from the Government and many from foreign lands when the exposition closed. Some 60 freight car loads of important objects were brought down to this city for storage after the centennial closed.

Now, that great teepee was wrapped up in the newspapers of Philadelphia—I think the papers were of 1878—and never unwrapped until your committee's funds made it possible for us to have this great exhibit.

I can say conservatively that millions of people have looked at it with interest. This is a wonderful exhibit. This is just a dramatic

example of the way in which these old stored objects are now out on view for the benefit of the people.

Of course, sir, in the field of history and technology, we are building new exhibits. That is why some of this money is necessary. We are building these exhibits and, as it were, putting them in a "deep freeze," so that when the builders get through with the new Museum of History and Technology, we will not have to wait for years but can put exhibits in place and then millions of people will have an opportunity to see them.

This is going to be the great realization of the point that you have made, sir.

Mr. JENSEN. Thank you, Doctor.

I don't quite understand what you mean by saying you are building exhibits. Will you define that?

Dr. CARMICHAEL. I will.

Let me take an example. Suppose we are going to show an exhibit of the Indian artifacts from a part of the Great Plains. We can't just buy a case and put these objects in and print some labels. We have to see that the lighting is right to show these particular objects. We have to see that there is a background which is appropriate, and probably by the use of what we call the silk screen process it may be necessary to use an old print of that period, enlarge it, and put it in as a background. In the end the visitor doesn't just see, for example, an Indian pipe in isolation, but as he looks at this exhibit, he can interpret what he sees in the context of the knowledge that the historian and the anthropologist have in regard to such matters. That is what we mean by building exhibits, sir.

Mr. JENSEN. Thank you, Doctor.

Now, will you give us a quick summary of your entire building program and the cost of same? Put it at one place in the record. You can furnish that for the record.

Dr. CARMICHAEL. All right, sir.

Mr. JENSEN. Furnish it in comprehensive, understandable language.

Dr. CARMICHAEL. We will indeed.

(Note: Information referred to is given in the statement titled, "Smithsonian Institution, Schedule of Building Projects," on p. 1124.)

INCREASES REQUESTED FOR 1963

Mr. JENSEN. What is your entire request for funds this year?

Dr. CARMICHAEL. The entire request for funds is $17,704,000.

Mr. JENSEN. And what is that over and above the 1962 request?

Dr. CARMICHAEL. Over and above 1962? The 1962 appropriation was $13,861,000.

Mr. JENSEN. Are you estimating any more new people?

Dr. CARMICHAEL. Yes, sir.

Mr. JENSEN. For what purpose?

Dr. CARMICHAEL. The purpose of the new people is in relation to the scientific research program of the Institution that I have previously described, the need to enlarge this important scientific research program, for example, in the field of oceanography. We also request an increase in exhibit workers, and an increase of maintenance workers for the new museum.

I must say that when we get these new physical facilities, it takes more maintenance, more guards. That explains the reason for the increases, sir.

REHABILITATION OF OLD FORD THEATER

Mr. JENSEN. Do you have anything to do with the rehabilitation of the old Ford Theater?

Dr. CARMICHAEL. No, sir.

Mr. JENSEN. Not at all?

Dr. CARMICHAEL. No, sir.

Mr. JENSEN. Has any request been made to you in that connection?

Dr. CARMICHAEL. I do not think so. That is a National Park Service project.

Mr. JENSEN. I know it is. But I wondered if your Department, under your able management, couldn't be of great service to the Park Service in rehabilitating that historical building where Lincoln was assassinated.

Dr. CARMICHAEL. We would be honored, if they cared to call upon us, to do anything we could.

Mr. JENSEN. Do you have any ideas, Doctor, whereby you might be able to assist in that rehabilitation?

Dr. CARMICHAEL. Sir, the National Park Service is a great service. They have a museums unit. They have a museums laboratory. And they have experts and they have historians. We are professional people and know the professional people in the Park Service. We cooperate at all levels. But the appropriations are different, and therefore we have to be a little bit careful, as you recognize, not to overstep what I might call organizational lines.

But if we can do anything for any historic shrine, without violating the basis on which our appropriations are made, we of course stand ready to do it, sir.

Mr. JENSEN. Do you have any article that you know of that came from the old Ford Theater?

Dr. CARMICHAEL. Not that I know of. We have Lincoln objects, but I don' know that we have any from the Ford Theater.

Mr. JENSEN. Well, they are making quote a search, you know, for anything that might have been in that theater at the time Lincoln was assassinated.

Dr. CARMICHAEL. It will be a great historic shrine.

HISTORY OF THE ZOO

Mr. JENSEN. Now, let me ask you this, as a final question: What is your responsibility, Doctor, relative to the zoo?

Dr. CARMICHAEL. Yes. I will explain, sir.

The National Zoological Park was founded, or was thought up, I should say, by Dr. Langley, who was the third Secretary of the Smithsonian Institution. The Smithsonian from the first had had live animals given to it, and around the old original building—the building with the high tower on the south side of the Mall—they built some pens to keep some animals.

If I may say so, in the summer this turned out, without modern water supply and sewerage and so on, to be somewhat malodorous, I

believe. More significantly, of course, there was a desire to have in this country a national zoo, as all of the other great countries had. And so Dr. Langley began searching for an appropriate location for the zoo.

That appropriate location turned out to be along Rock Creek. This was before there was a Rock Creek Park. And in 1889, the first public use of that wonderful part of the District was authorized.

I say 1889. That was the date—I may be subject to correction—when the site acquisition was authorized by the Congress. And in the next year, 1890, the Smithsonian was put in charge of the development of a zoo.

The great landscape architect of his time, Olmstead, was called in. He laid it out. And the Smithsonian has continued to carry on the work of managing the zoo.

In our great museum, we always have zoologists. We have experts on birds, on mammals, on reptiles, on fish. We have the biologists, who can consult with the authorities at the zoo.

So there is a very logical relationship between the Smithsonian and and the National Zoological Park.

And I may say a similar relationship exists in other countries.

So, through the years, this has gone on. But the funds have been appropriated since 1923 through the Distirct of Columbia budget. Still, there is no suggestion that the operation and maintenance funds are not to be provided through the District of Columbia budget. But it has become increasingly clear, through recent years, that with the competition in the District of Columbia capital funds budget, with the need for hospitals, for schools, and so on, the zoo could not be developed. We have gone up year after year, and in spite of, I think, the desire to make funds available, it has not been possible to get appropriations to replace the old, wornout, and in some cases absolutely substandard buildings at the zoo.

It is for this reason, and as a result of the activity of a group of citizens called The Friends of the National Zoo, and certainly as a result of the activities of the Board of Regents, that last year the Congress enacted a law permitting the Smithsonian to come before this committee and request funds for capital improvement.

And it is for that reason that the $950,000 is requested today, sir.

Mr. JENSEN. Thank you, Doctor.

How long have you been Director of the Smithsonian?

Dr. CARMICHAEL. This is the beginning of my ninth year, sir.

Mr. JENSEN. And before that time?

Dr. CARMICHAEL. I was president of a New England university called Tufts, T-u-f-t-s.

Mr. JENSEN. I hope you will be in charge of the Smithsonian Institution from now on.

Mr. KIRWAN. Dr. Fenton?

VISITORS

Dr. FENTON. Doctor, you made a statement that there were over 7 million visitors to the Smithsonian last year?

Dr. CARMICHAEL. Yes, sir.

Dr. FENTON. Does that include the zoo?

Dr. CARMICHAEL. No, sir. The 7 million figure that I gave you is for the old buildings of the Smithsonian, for the Natural History Building, the Arts and Industries Building, the old Smithsonian Building, and that temporary Aircraft Building that was built in World War I to test Liberty motors, but which we have made over as a place for aircraft. And the Freer Gallery.

Dr. FENTON. Do you know how many visitors visited the zoo?

Dr. CARMICHAEL. Mr. Bradley, do you?

Mr. BRADLEY. The estimate for the attendance at the National Zoological Park is slightly over 2 million visitors a year.

Dr. CARMICHAEL. We use a hand clicker to count the people that come to the buildings I have just mentioned. We can't really do this at the zoo. So I asked Mr. Bradley to give the estimate, because it is more of an estimate.

Mr. JENSEN. My guess is that two million is way too low. There is always a crowd out there, every day.

Dr. FENTON. Do you keep count?

Dr. CARMICHAEL. We do at our own buildings. The guards count as people come in. At the zoo they estimate by the parked cars and by taking a census once in a while, and then I think the word is "extrapolating" from these particular counts to the total.

MUSEUM OF HISTORY AND TECHNOLOGY

Dr. FENTON. You are not asking for any more appropriations for the Museum of History and Technology?

Dr. CARMICHAEL. No, sir. That building fund is in the past.

Dr. FENTON. And you expect that to be completed next year?

Dr. CARMICHAEL. We do, sir.

REMODELING OF CIVIL SERVICE BUILDING

Dr. FENTON. Last year you asked for planning money to remodel the old Civil Service Building. That planning has been completed, and this year's request of $5,400,000 is to go forward with the remodeling?

Dr. CARMICHAEL. The planning is not yet complete, but it is well underway.

Dr. FENTON. When do you expect to let the contract for this?

Dr. CARMICHAEL. The building remodeling contract would be given certainly by July or August 1963.

ZOO CONSTRUCTION WORK

Dr. FENTON. You mentioned something about road construction and a new Bird House in the Zoological Park. I note that you have made a request for $950,000. The planning for 1962 is in the District of Columbia appropriation?

Dr. CARMICHAEL. Yes, sir.

Dr. FENTON. This $950,000 comes out of——

Dr. CARMICHAEL. That is our request of this committee. Those funds will be used for a new entrance road from Connecticut Avenue, will be used for new bird houses and bird free flight cage.

Dr. FENTON. The request does not involve the zoo bypass tunnel?

Dr. CARMICHAEL. It is not for the tunnel. That is an entirely different appropriation.

Maybe I shouldn't have included a statement on it; but if funds for a tunnel were appropriated to the National Capital Parks it would relieve us of the difficulty of having this large flow of traffic through the zoo.

That request is not, as I say, before this committee at the present time. It is to connect Rock Creek Park and Potomac Parkway—it will be before you, I think, in the requests of the National Capital Parks.

Dr. FENTON. Well, Doctor, as the other gentlemen have said, I always enjoy listening to you. Some of those buildings are pretty old, and they need some attention.

Dr. CARMICHAEL. At the zoo? Yes.

Dr. FENTON. I think that is all.

Mr. KIRWAN. Thank you, Doctor, for appearing before us today with your enlightened statement.

NATIONAL GALLERY OF ART

WITNESSES

JOHN WALKER, DIRECTOR
HUNTINGTON CAIRNS, SECRETARY-TREASURER
ERNEST R. FEIDLER, ADMINISTRATOR
E. ROY BERGHOLZ, ASSISTANT TREASURER
L. D. HAYES, ASSISTANT ADMINISTRATOR

SALARIES AND EXPENSES

Object classification

[In thousands of dollars]

		1961 actual	1962 estimate	1963 estimate
11	Personnel compensation:			
	Permanent positions	1,495	1,523	1,533
	Positions other than permanent	24	25	25
	Other personnel compensation	50	46	36
	Total personnel compensation	1,569	1,594	1,594
12	Personnel benefits	118	120	120
21	Travel and transportation of persons	7	7	7
22	Transportation of things	1	1	1
23	Rent, communications, and utilities	126	131	131
24	Printing and reproduction	1	9	9
25	Other services	60	25	82
26	Supplies and materials	47	50	42
31	Equipment	12	6	2
32	Lands and structures	16		18
	Total costs	1,957	1,942	2,005
	Change in selected resources	−37	−10	49
	Total obligations	1,920	1,932	2,054